

**What is Claimed is:**

1. An optically detectable security marker for emitting light at a pre-selected wavelength, the marker comprising:  
a rare earth dopant; and  
a carrier incorporating the rare earth dopant, the interaction of the carrier and the dopant being such as to provide a fluorescent fingerprint that is different from that of the rare earth dopant.
2. A marker according to claim 1, wherein the rare earth dopant is a lanthanide.
3. A marker according to claim 1, wherein the carrier comprises a glass or a plastic.
4. A marker according to claim 2, wherein the carrier comprises a glass or a plastic.
5. A marker according to claim 1, wherein the dopant and the carrier material are such as to cause emission of visible light in response to optical excitation by visible light.
6. An item having an optically detectable security feature for emitting light at a pre-selected wavelength, the item comprising:  
a rare earth dopant; and  
a carrier incorporating the rare earth dopant, the interaction of the carrier and the dopant being such as to provide a fluorescent fingerprint or response that is different from that of the rare earth dopant.
7. An item according to claim 6, wherein the item is a fluid.

8. An item according to claim 6, wherein the item is a laminar media item.
9. An item according to claim 6, wherein the security feature comprises a plurality of security markers, each marker emitting at a different pre-selected wavelength.
10. An item according to claim 9, wherein the markers have different concentrations of dopant or dopants, so that the intensities of the pre-selected wavelength emissions are different.
11. An item according to claim 9, wherein the emission from each marker decays over a different time period.
12. An item according to claim 10, wherein the emission from each marker decays over a different time period.
13. A system for validating an item having an optically detectable security feature emitting light at one of a plurality of pre-selected wavelengths, the security feature having a carrier incorporating a rare earth dopant, the system comprising:
  - means for illuminating the security feature with one or more wavelengths for producing emissions from the rare earth dopant;
  - means for detecting emission from the security feature at a pre-selected wavelength;
  - means for comparing the detected emission with a security profile for the item;
  - means for the electronic selection of photodiode signals based on the fluorescent lifetime of a detected signal corresponding to the emitted radiation from the security feature; and
  - means for indicating a successful validation in the event of the emission matching the security profile.

14. A system according to claim 13, wherein the means for illuminating the item comprises a pulsed light emitting diode and an illumination filter for ensuring that only a narrow band of wavelengths illuminate the item.

15. A system according to claim 13, wherein the means for detecting emission comprises a detection filter to filter out all wavelengths except the pre-selected wavelength, and a photodiode to detect the intensity of light passing through the detection filter.

16. A system according to claim 13, wherein the means for electronic selection of the photodiode signal comprise an electronic filter to filter out all signals except pre-selected signals corresponding to the long-lived rare earth fluorescent emissions.

17. A method of validating an item having an optically detectable security feature emitting light at one of a plurality of pre-selected wavelengths, the method comprising the steps of:

illuminating the security feature with one or more wavelengths for producing emissions from the rare earth dopant;

detecting emission from the security feature at a pre-selected wavelength;

comparing the detected emission with a security profile for the item;

detecting and comparing electronic signals from a photodiode based on the fluorescent lifetime of a detected signal corresponding to the emitted radiation from the security feature; and

indicating a successful validation in the event of the emission matching the security profile.